GUIDELINES FOR HERITAGE RESOURCE IMPACT ASSESSMENT IN BRITISH COLUMBIA

Tourism
Recreation and Culture
HON. BILL REID, MINISTER

Heritage Conservation Branch

87-05124/

Canadian Cataloguing in Publication Data

Germann, Carlos.
Guidelines for heritage resource impact assessment in British Columbia

"Adapted from a manuscript prepared for the Heritage Conservation Branch by Carlos Germann. Editing was done by Brian Apland and Arthur Charlton"--Acknowledgements.
ISBN 0-7726-0650-1

1. Historic sites - Government policy - British Columbia. 2. Environmental impact analysis - British Columbia. I. Apland, Brian Carl. II. Charlton, Arthur Sidney. III. British Columbia. Archaeology Programs Division. IV. Title.

FC3812.G47 1987 354.7110085'9 C87-092096-0
F1087.8.G47 1987

GUIDELINES FOR HERITAGE RESOURCE IMPACT ASSESSMENT IN BRITISH COLUMBIA

Archaeology Programs Division, Heritage Conservation Branch/1987

ACKNOWLEDGEMENTS

This document has been adapted from a manuscript prepared for the Heritage Conservation Branch by Carlos Germann. Editing was done by Brian Apland and Arthur Charlton.

First Edition 1982
Second Printing 1984
Second Edition 1987

CONTENTS

	Page
Acknowledgements	i
Contents	ii
List of Tables	v
List of Appendices	vi
Part I: INTRODUCTION	1
Part II: HERITAGE LEGISLATION	3
2.1 Heritage Resource Legislation	3
2.2 Objectives	4
Part III: HERITAGE RESOURCES IMPACT ASSESSMENT AND REVIEW PROCESS	5
3.1 Introduction	5
3.2 Roles and Responsibilities	7
3.2.1 Project Proponent and Consultants	7
3.2.2 Heritage Conservation Branch	8
3.2.3 Provincial Project Coordinating Committee	9
3.3 Review Procedures	9
3.4 Overview Assessment	10
3.4.1 Background Research	11
3.4.2 Documentary Research	11
3.4.3 Direct Consultation	12
3.4.4 Preliminary Field Reconnaissance	13

CONTENTS - Continued

		Page
3.5	Detailed Impact Assessment	15
3.5.1	Detailed Inventory	17
3.5.1.1	Field Survey	17
3.5.1.2	Complete Survey	18
3.5.1.3	Sample Survey	18
3.5.1.4	Systematic Sampling	19
3.5.1.5	Judgemental Sampling	19
3.5.1.6	Basic Components of Site Surveying	20
3.5.1.7	Surface Inspection	21
3.5.1.8	Subsurface Testing	21
3.5.1.9	Site Recording	22
3.5.2	Detailed Impact Assessment	24
3.5.2.1	Significance Criteria	24
3.5.2.2	Scientific Significance	25
3.5.2.3	Public Significance	25
3.5.2.4	Ethnic Significance	26
3.5.2.5	Historical Significance	26
3.5.2.6	Economic Significance	27
3.5.2.7	Integrity	27
3.5.2.8	Evaluative Testing	28
3.5.2.9	Surface Collecting	29
3.5.2.10	Describing the Impact	30
3.5.2.11	Assessing Level of Effect	32

CONTENTS - Continued

	Page
3.6 Mitigation/Compensation	33
3.6.1 Mitigation	34
3.6.1.1 Project Design Changes	35
3.6.1.2 Site Protection	36
3.6.1.3 Systematic Data Recovery	37
3.6.2 Compensation	39
3.7 Surveillance/Monitoring	40
3.7.1 Surveillance	41
3.7.2 Monitoring	42
3.7.3 Emergency Impact Management	42

CONTENTS - Continued

Page

LIST OF TABLES

TABLE 1: Project Planning and Heritage Resource Assessment 6

CONTENTS - Continued

Page

LIST OF APPENDICES

Appendix A	-	Guidelines for Report Content	44
Appendix B	-	Heritage Conservation Act of British Columbia	61
Appendix C	-	Qualifications for Professional Heritage Impact Assessment Consultants Working in British Columbia	70
Appendix D	-	Checklist of Criteria for Archaeological Site Evaluation	73
Appendix E	-	Checklist of Criteria for Historical Site Evaluation	77
Appendix F	-	Checklist of Criteria for Architectural Site Evaluation	81
Appendix G	-	Checklist of Criteria for Paleontological Site Evaluation	85
Appendix H	-	Indicators for Assessing Impacts on Heritage Sites	88

PART I

INTRODUCTION

The Guidelines outlined in this document, apply principally to development projects which, by virtue of their scale, location, extent of impact, administrative or jurisdictional complexity, or other factors are subject to British Columbia's environmental impact assessment and review process. As such, the procedures for heritage resource assessment and review herein discussed, articulate with those outlined in the Guidelines for Linear Development , the Mine Development Review Process, and the Energy Project Review Process. Although the heritage resource Guidelines apply mainly to development projects which undergo provincial review, they may also be applied, with minor modification, to all other developments.

A particularly important characteristic of these guidelines is their flexibility. They are not intended to be used as a "cookbook" approach to all development projects. Although certain categories of information are needed for decision-making, each heritage study must be tailored to meet specific project characteristics and needs. It is recognized that the extent of work, particularly in the preliminary stages of project planning, needs to be coordinated with the proponent's level of commitment to the project. Representatives of the Heritage Conservation Branch will meet directly with the proponent to provide project-specific clarification and interpretation of the Guidelines where necessary. Depending upon the project, considerable flexibility can be expected in the staging of impact assessment and management studies, the level of detail at which the studies are undertaken, and the reporting requirements.

Heritage resource assessment and review procedures are under continual review, and may be modified or altered as the Provincial Government's overall environmental impact assessment and review process evolves.

PART II

HERITAGE LEGISLATION

2.1 HERITAGE RESOURCE LEGISLATION

Enabling legislation for the protection and conservation of British Columbia's heritage resources was passed by the Provincial Legislature in August, 1977. The Heritage Conservation Act (1979 R.S., Chapter 165), replaced the Archaeological and Historic Sites Protection Act. The authority provided by the Act applies whether heritage sites are located on public or private land.

Heritage sites are protected under the Act through designation as "Provincial heritage sites" (section 4), or through automatic protection by virtue of being of particular historic or archaeological value (section 6). Protected heritage sites may not be destroyed, excavated, or altered without a permit issued by the Minister or his designate. The Act affords considerable discretionary authority in determining if, and under what conditions, such permits are to be granted (section 5).

Section 7 of the Act empowers the Minister to order a "site survey" or a "site investigation" where, in his opinion, land contains a heritage site which may be damaged or destroyed. The purpose of a site survey is to assess the heritage significance of land or other porperty. A site survey determines the presence of heritge sites which warrant protection, or are already protected, under the Act.

Administration of the Heritage Conservation Act is carried out by the Heritage Conservation Branch of the Ministry of Tourism, Recreation and Culture.

2.2 OBJECTIVES

The role of the Heritage Conservation Branch is not to prohibit or impede land use and development, but rather to assist the Provincial Government in making decisions which will ensure optimal land use. When the benefits of a project are sufficient to outweigh the benefits of heritage preservation, the Branch's primary concern is to work with the proponent in determining how the project may be implemented with minimal loss to heritage resource values. If appropriate impact management practices are adopted, it is usually possible to minimize loss of heritage resource values in a cost-effective manner. Where the loss of significant heritage values cannot be avoided, the role of the Branch is to ensure that appropriate compensatory measures are established.

The following objectives reflect heritage resource management policy in British Columbia:

(a) to preserve representative samples of the Province's heritage for the scientific, educational and recreational benefit of present and future generations;

(b) to ensure that proponents of development consider heritage resource values and concerns in the course of project planning;

(c) to ensure, where decisions are made to develop land, that proponents adopt one of the following actions:

  (i) avoid heritage sites wherever possible;

  (ii) implement measures which will mitigate project impacts on heritage sites;

  (iii) compensate British Columbians for unavoidable losses of significant heritage value.

In managing heritage resources, the Branch aims to develop a cooperative relationship with project proponents.

PART III

HERITAGE RESOURCE IMPACT ASSESSMENT AND REVIEW PROCESS

3.1 INTRODUCTION

Heritage resource impact assessment studies are initiated in response to potential development proposals which will disturb or alter the landscape, endangering heritage sites. Major development projects of this nature normally proceed through four general stages of project planning: (1) pre-feasibility or prospectus; (2) feasibility or preliminary planning and design; (3) final design plan licensing and approval; and (4) project implementation and operation. At each stage of this general planning process a particular type of heritage investigation is undertaken to meet specific project objectives and needs. The integration of project planning with heritage resource assessment is illustrated in Table 1.

The following series of operations or activities constitute the heritage resource impact assessment process: heritage overview assessment; detailed inventory and detailed impact assessment; and impact management. Success of the process is dependent upon close communication and cooperation between project proponents and the Branch and their mutual respect for development and heritage conservation goals.

The heritage resource assessment process is composed of two principal components: assessment and impact management. Assessment is primarily concerned with the location and evaluation of heritage resources and the assessment of impacts during the initial stages of project planning.

Table 1: Project Planning and Heritage Resource Assessment

HERITAGE RESOURCE STUDY	PROJECT PLANNING ACTIVITY	TYPE OF REPORT
Heritage Overview Assessment - background research - preliminary field reconnaissance where appropriate	Pre-feasibility, Pre-Prospectus - for large areal projects such as dams, mines, etc. Feasibility, Post-Prospectus - for linear projects -- options to consider	Overview
Detailed Inventory Assessment - inventory	Feasibility, Preliminary-Planning - for inventory	Detailed Inventory
Details Impact Assessment - site evaluation - impact identification and assessment - mitigation recommendation	Preliminary Design - for impact assessment and recommendation - licensing and permitting	Detailed Impact Assessment
Impact Management - mitigation - compensation	Final Design Licensing and Approval	Mitigation/ Compensation
Impact Management - surveillance - monitoring - emergency salvage	Project Implementation and Operation	Surveillance/ Monitoring

Impact management follows directly from assessment and is primarily concerned with managing unavoidable adverse impacts as well as unanticipated impacts. It is important to recognize that the assessment and impact management phases are approached sequentially in association with specific levels of project planning. Moreover, each new stage in the process is highly dependent upon results and recommendations made in the preceding stage.

3.2 ROLES AND RESPONSIBILITIES

The main participants in the heritage resource assessment process usually include:

(a) the project proponent;

(b) heritage consultants;

(c) the Heritage Conservation Branch;

(d) project coordinating committees representing various Provincial Ministries or approval agencies at regional and municipal levels.

3.2.1. Project Proponent and Consultants

Proponents are encouraged to consider heritage resource concerns in their project planning and design from the outset. As participants in the heritage assessment process, proponents are responsible for:

(a) complying with all orders and permits issued under the Heritage Conservation Act;

(b) reporting the results and recommendations of heritage impact studies, and submitting these reports to the Heritage Conservation Branch for review.

A list of consultants who offer their services in British Columbia is maintained by the Branch and is available upon request.

Qualified consultants should be concerned with designing research strategies, conducting heritage impact assessment and management studies, and recommending courses of action. The responsibility for final decisions concerning the management of heritage resources is vested with the Branch.

3.2.2 Heritage Conservation Branch: Assessment Section

The Branch's Assessment Section exercises various responsibilities that include:

(a) setting impact assessment and management guidelines, professional standards, and reporting requirements;

(b) reviewing development proposals to determine the proponent's level of involvement in the heritage resource assessment process;

(c) preparation of "orders" and "permits" pursuant to the Heritage Conservation Act in assistance to the Minister;

(d) providing guidance or direction to the proponent throughout the heritage assessment process;

(e) providing for consultants, access to heritage site files, maps, and other documentary materials maintained within the Branch;

(f) monitoring field aspects of heritage impact assessment and management studies for compliance with terms and conditions of "orders" and "permits";

(g) reviewing reports and research proposals for relevance, completeness, and objectivity;

(h) establishing terms and conditions for project approval.

3.2.3 Provincial Project Coordinating Committee

Three Provincial committees are involved in the heritage resource assessment process by providing general direction and coordination of the Province's overall environmental assessment and review process. These are the Energy Project Coordinating Committee, the Mine Development Steering Committee, and the Linear Guidelines Committee. These committees work directly with the proponent and the Branch to clarify requirements or provide general advice on assessment and review procedures at various stages in the approval process. They also coordinate review comments, advice, or queries the Branch may have regarding a proponent's heritage impact studies.

3.3 REVIEW PROCEDURES

The Branch may conduct as many as three to four formal reviews. The first involves an examination of the proponent's initial development proposal or "prospectus" to determine whether further involvement in the heritage resource assessment process is required. The initial "prospectus" should include a heritage overview assessment. The second, third and fourth reviews are to evaluate the "overview" report, (where not done in Prospectus) "detailed inventory" report and the "detailed impact assessment" report, respectively.

The Branch may request rectification of certain report deficiencies either immediately or, depending on the nature of the deficiencies, in a following phase of the assessment process. The Branch will inform the proponent of these deficiencies and the means of rectifying them.

Heritage assessment reports should be received by the Branch as early as possible in the project planning process. Early Branch review will provide maximum lead time for correcting

report deficiencies and/or for preparing and implementing subsequent heritage investigations. This practice will minimize expense and delay to the proponent.

Unless the proponent demonstrates otherwise, final reports received by the Branch are considered public information.

3.4 OVERVIEW ASSESSMENT

The heritage resource overview assessment is intended to identify and assess heritage resource potential or sensitivity within a proposed study area. Recommendations concerning the appropriate methodology and scope of work, for detailed inventory and/or impact assessment studies are also expected.

Typical overview studies should entail (see Appendix A for further detail on content):

(a) background library and records search of ethnographic, archaeological, historic, architectural and paleontological documents pertinent to the proposed study area;

(b) a statement of heritage resource potential and distribution in the proposed study area;

(c) a judgemental assessment of anticipated impacts in light of proposed development plans;

(d) recommendations concerning further detailed heritage impact assessment studies.

Overview studies are particularly important with respect to large scale developmental projects such as hydro-electric dams, transmission lines, pipelines, open-pit mine sites, etc. More site specific projects involving small, well defined localities such as residential subdivisions, manufacturing plant sites, port facilities, etc., may effectively combine an overview study with a detailed inventory study. The most appropriate level of study, for any particular development project at this

stage, should be established through consultation with the Assessment Section of the Heritage Conservation Branch.

3.4.1 Background Research

Background research is of fundamental importance for assessing the heritage resource potential of a study area. It is therefore regarded as a minimum requirement of the overview assessment. The research should be designed to allow predictions regarding the potential range of site variability, density, and distribution in an area. It may also be possible to develop a broad evaluatory framework within which the significance of heritage sites can be judged. It is conceivable, depending on the availability and quality of existing data, to satisfactorily meet these research objectives without undertaking field survey.

Background research must involve documentary research, and where practical, direct consultation with knowledgeable persons and organizations.

3.4.2 Documentary Research

This aspect of background research should involve a thorough review of library and archival literature and other relevant data sources. The research should include, but need not be limited to:

(a) a check of extant records including the B.C. Archaeological Site Inventory, The Canadian Inventory of Historic Buildings, legal land survey records and other pertinent records and inventory files;

(b) a review or summarization of all previous heritage investigations or surveys in the study area, or in immediately adjacent areas;

(c) a review of relevant information from published and unpublished sources on local and regional history, prehistory, architectural history, ethnography, ethnohistory, cultural geography, paleontology, and other pertinent disciplines;

(d) a review of relevant paleoecological studies to assess past environmental conditions that may have influenced cultural adaptations;

(e) examination and interpretation of aerial photographs and geomorphological and pedological information as an aid for assessing potential for human habitation.

Occasionally, access to various relevant unpublished data may be seriously hindered. For example, some institutions or organizations that maintain heritage documents, records, files, etc. may have, except under special arrangement, a confidential policy regarding use of the material. Such a policy usually reflects legitimate concerns about the integrity of the documents. In other cases, the researcher may face a long waiting period before access to the data is permitted. Problems in accessing pertinent and necessary documentary sources should be ascertained as early as possible. Those which cannot be immediately resolved should be brought to the attention of the Heritage Conservation Branch.

3.4.3 Direct Consultation

Individuals and organizations with knowledge of heritage resources in the study area should be contacted where appropriate. The objective being, to compile information concerning the location, distribution, and significance of reported heritage sites. Interviews should be designed to elicit information which may facilitate reconstructing or confirming ethnographic and historic patterns of settlement, land use, and subsistence. Among those who should be consulted are local informants such as native groups, heritage societies, "old-timers" and specialists

having local or regional expertise in the area. Specialists may include archaeologists, historians, ethnohistorians, and paleontologists, among others.

Local perceptions and attitudes may have a significant bearing on resource management decision-making, and therefore should be reported. This is especially true when there is strong local interest and concern regarding the safety of a particular heritage site or a group of such sites. Interviews with various persons can provide the researcher with an opportunity to document public or community attitudes toward impacts on local heritage resources which the proposed development may impose. However, depending upon the type of project and stage of planning, such discussions may be precluded by a need for confidentiality (i.e. concern over potential speculation). Local interviews must be conducted only with the approval of the proponent, and must be handled very objectively.

3.4.4 Preliminary Field Reconnaissance

The heritage overview assessment may require some preliminary field reconnaissance. Preliminary reconnaissance may involve a simple overflight of the study area, or, if greater intensity is demanded, a field survey using either systematic or judgemental site sampling techniques. Reconnaissance survey is intended to supplement background research and should be undertaken in the event that historical, ethnological, or other documentary sources necessary for assessing heritage resource potential are insufficient or unavailable. It is also warranted in the case where many alternatives are under consideration for location of project facilities. In this case, an overview statement of resource potential in an area, based entirely on background research, may be

inadequate for providing effective guidance on project planning. The Assessment Section of the Heritage Conservation Branch will provide assistance in determining the need or the appropriate intensity of preliminary field reconnaissance for specific development projects.

Reconnaissance survey should be primarily designed to provide a sufficient indication of heritage resource potential in the study area and to identify both the need and the appropriate scope for further field studies. Although this may involve some ground reconnaissance, area coverage will usually be quite small relative to the overall size of the area being studied. The survey will seldom provide sufficient data to ensure an adequate estimate of all heritage sites in an area. Information resulting from preliminary field reconnaissance should, however:

(a) confirm or refute the existence of heritage sites reported or predicted from background research;

(b) allow further predictions to be made about the distribution, density and potential significance of heritage sites within the study area;

(c) identify areas where sites are apparently absent, implying low or no potential;

(d) verify, wherever possible, potential impacts imposed by the development projects;

(e) suggest the most appropriate survey methods or techniques to be used in an intensive field survey should such a survey be necessary.

By accomplishing these research objectives, the reconnaissance survey serves as a useful preliminary for designing and subsequently implementing a more efficient and effective site inventory survey.

Techniques employed in reconnaissance survey will vary depending on such factors as terrain, vegetation, land use, ease of access, urbanization, the size of the project area, or the types of heritage resources being sought. Where archaeological and paleontological sites are anticipated, reconnaissance survey may also be necessary for archaeologists and paleontologists to undertake some subsurface testing at this time to locate sites lacking surface evidence, to delineate site boundaries, or, where necessary, to obtain sufficient information for preliminary site evaluation. For historic and architectural resources a different approach to reconnaissance survey is normally required. A comprehensive drive-through or pedestrian inspection of areas having potential historical or archaeological value would be generally appropriate for preliminary field reconnaissance.

In undertaking a heritage overview assessment, the development proponent, or his consultant, is encouraged to develop innovative approaches to predicting or evaluating overall resource sensitivity or potential within the study area. In this respect, it is important to consult all relevant data sources. Furthermore, the services of varied specialists such as ethnohistorians, architectural-historians, cultural anthropologists, and paleontologists should be drawn upon so as to make the fullest use of the information. Extended efforts at this initial stage in the assessment process will result in more efficient and cost-effective research in later phases of study.

3.5 DETAILED IMPACT ASSESSMENT

For most proposed development projects, a detailed impact assessment is the usual procedure following the overview study. The detailed impact assessment is designed to gain the

fullest possible understanding of heritage resources which would be affected by the project.

The primary objectives of the assessment are to:

(a) identify and evaluate heritage resources within the specified project area;

(b) identify and assess all impacts on heritage resources which might result from the project;

(c) recommend viable alternatives for managing unavoidable adverse impacts including a preliminary program for:

(i) implementing and scheduling impact management actions and, where necessary,

(ii) conducting surveillance, monitoring or both.

The information provided by detailed impact assessment is intended to assist the proponent in choosing a suitable approach to designing, planning and implementing the proposed project while giving consideration to heritage resources.

In the course of fulfilling these basic objectives, it is often possible to conduct problem-oriented research aimed at enhancing public understanding and appreciation of British Columbia's heritage. The effective integration of both management and research is a desirable quality of detailed impact assessment and should be recognized as an integral part of such studies.

Two basic research activities are associated with the detailed impact assessment level of study; (1) inventory; and (2) impact identification and assessment. Often, due to uncertainty as to the number of types of heritage sites which might be encountered during the inventory phase, it is preferable to separate that phase from the impact identification and assessment phase.

3.5.1 Detailed Inventory

The detailed inventory study involves a program of in-field identification of heritage resources within a proposed development area. The nature and scope of this type of study is defined primarily by the results of the overview study. In the case of site-specific developments direct implementation of an inventory study may preclude the necessity of an overview.

There are a number of differing methodological procedures which may be applicable to conducting inventory studies. The proponent in collaboration with a consultant must develop an appropriate study format for the proposed development at hand. The Branch will review and comment upon the proposed methodological approach prior to implementation.

The inventory phase of details impact assessment involves field survey to locate heritage sites in the field, and the complete on-site recording or documentation of each identified site.

3.5.1.1 Field Survey

Field survey refers to the inspection of the proposed project area for locating archaeological, paleontological, historic and architectural sites. There are many different approaches to field survey, any one of which may be appropriate in different situations. Consequently, it is not possible to broadly prescribe which approach is most suitable for specific types of projects. A suitable approach is best determined after having considered the biophysical conditions and heritage site potential of a survey area.

The basic strategy and scope of field survey also varies depending on the kind of heritage sites anticipated. A survey of archaeological resources, including historic, prehistoric, and paleontological sites, usually requires the use of established archaeological procedures. These same procedures may be inappropriate when attempting to locate buildings or other structures of historical or architectural value.

Field survey involves complete or sample coverage of the project area. Accepted site-survey techniques including subsurface testing are employed.

3.5.1.2 Complete Survey

Ideally, the heritage site inventory should be based on intensive survey of every portion of the impact area. Maximum area coverage allows the most comprehensive understanding of heritage resource density and distribution. However, in many cases, the size of the project area may render a complete inventory survey impractical because of time and cost considerations.

3.5.1.3 Sample Survey

In some situations it may be practical to intensively survey only a sample of the entire project area. Sample selection is approached systematically, based on accepted sampling practices, or judgementally, relying primarily on subjective criteria. In historic and architectural site surveys, survey areas are usually selected on the basis of direct or indirect evidence from documentary and other sources.

3.5.1.4. Systematic Sampling

A systematic sample survey is designed to obtain a representative sample of heritage resources in the project area. A statistically valid sample will allow reliable predictions regarding total resource density, distribution and variabililty.

In systematic sample surveys, it may be necessary to exempt certain areas from intensive inspection owing to excessive slope, water bodies, landslides, land ownership, land use or other factors. These areas must be explicitly defined. Areas characterized by an absence of road access or dense vegetation should not be exempt.

The proponent is encouraged to seek professional consultation to ensure that the sampling methods selected for heritage site survey are both appropriate and accurately applied. Previous studies of sample size, survey intensity, and statistical design and application under similar environmental and project conditions should also be consulted.

3.5.1.5 Judgemental Sampling

Under certain circumstances, it is appropriate to select a sample of the project area based entirely on professional judgement regarding the location of sites. Only those areas which can reasonably be expected to contain heritage sites are surveyed.

Judgemental sampling may be a suitable strategy for archaeological and paleontological site surveys. A sufficient understanding of cultural and biophysical factors which influence or account for the

distribution of these sites over the landscape is essential. Careful consideration must be given to ethnographic patterns of settlement, land use, and resource exploitation, the kinds and distribution of aboriginal food sources, and restrictions on site location imposed by physical terrain, climatic regimes, soil chemistry or other factors. A judgemental sample survey of archaeological or paleontological sites is undesirable if statistically valid estimates of total resource density and variability are required.

Judgemental sampling is commonly employed in surveys of historical and architectural sites. Selection of the survey area is often based on documentary evidence, reports made by knowledgeable persons, or other sources which identify specific or approximate locations of potential heritage sites. Historical site surveys are also conducted on a lot-by-lot basis, with particular emphasis in areas of earliest recorded development. In some cases, the survey focuses on particular kinds of historical or architectural properties such as domestic or industrial buildings, or on properties representing particular themes such as ranching or homesteading.

3.5.1.6 Basic Components of Site Surveying

Site surveying is the process by which heritage sites are actually located and identified on the ground. Heritage site surveys consist of two basic components: surface inspection and subsurface testing.

3.5.1.7 Surface Inspection

The approach used to inspect or survey an area varies depending on the type of heritage site being sought. Archaeological site surveys normally involve a foot traverse along predefined linear transects spaced at systematic intervals across the survey area. This systematic approach is designed to achieve representative areal coverage. Alternatively, an archaeological site survey may involve a nonsystematic or random walk across the survey area.

Surveys designed to locate sites of historic or architectural value need not be restricted to foot traverse. Often they may be satisfactorily conducted using motor vehicles. The survey involves scanning interior and exterior features of potentially important buildings or other structures.

3.5.1.8 Subsurface Testing

Subsurface testing is an integral part of site surveying, particularly where archaeological sites are concerned. The purpose of subsurface testing, commonly called "shovel-testing", is to:

(a) assist locating heritage sites which are buried or obscured from the surveyor's view,

(b) help determine the horizontal and vertical dimensions and internal structure of a site.

In this respect, subsurface testing should not be confused with evaluative testing (p.28) which is a considerably more intensive exercise to assess site significance.

Subsurface testing is a useful field technique for locating sites in heavily vegetated areas with minimal surface exposure. However, subsurface testing should be employed at all times to ensure that heritage sites below the surface are also discovered. Subsurface testing should be more intensive in areas having high heritage site potential.

Once a site is located, subsurface testing is conducted to record horizontal extent, depth of the cultural or paleontological matrix, and degree of internal stratification. Because subsurface testing, like any form of site excavation, is destructive, it should be conducted only when necessary and in moderation.

Subsurface testing is usually accomplished by shovel, although augers and core-samplers are also used provided the conditions are suitable. Shovel-test units averaging 40 cm by 40 cm are generally appropriate but must be excavated to a sterile stratum (i.e. AH Horizon, Glacial till, etc.). Depending on the site survey strategy, subsurface testing is conducted systematically or randomly across the survey area. Other considerations such as test unit location, frequency, depth, and interval spacing will also depend on the survey design as well as various biophysical factors. All test units placed on a site must be accurately recorded and mapped.

3.5.1.9 Site Recording

Inventory survey includes the complete documentation of each identified site. All heritage sites in British Columbia are recorded on standard site

inventory forms available from the Inventory Section of the Heritage Conservation Branch.

The Guide to the B.C. Archaeological Site Inventory Form must be consulted when recording heritage sites. This manual identifies the kinds of information to record and the procedures to follow.

A description of site characteristics, photographs and a map or sketch of the site drawn to scale, are required. The map for archaeological, paleontological, and many historic sites, should illustrate the arrangement of the site as well as its precise location relative to the nearest recognizable and permanent landmark. These sites are often situated in remote areas, and as such, the sketch must be drawn in sufficient detail to allow easy relocation in the field. Legal descriptions should be provided wherever possible.

Site recording should also include a thorough description of all cultural materials observed at a site. We recommend that a representative selection of diagnostic artifacts or features be drawn to scale or photgraphed in situ. Drawings and photographs should be included with the inventory form.

Once completed, site inventory forms must be forwarded to the Inventory Section of the Heritage Conservation Branch in Victoria, B.C. The Branch will then assign a "Borden" identification number to each site and return the official site references to the proponent and/or his heritage consultant. Borden numbers can only be assigned by the Branch's inventory staff. Field records therefore must utilize a temporary referencing system.

3.5.2 Detailed Impact Assessment

Detailed impact assessment studies are only required where conflicts have been identified concerning heritage resources within a proposed development area. These studies require a detailed description of the particular heritage resource to be impacted as well as the nature and extent of the impacts to be expected. The purpose of the assessment is to provide recommendations as to the most appropriate manner in which the resource may be managed in light of the identified impacts. Management options may include; alteration of proposed development plans to avoid resource impact, mitigative studies directed at retrieving resource values prior to impact, or compensation for unavoidable loss of resource values.

There are a variety of procedures which may be useful in performing a detailed impact assessment. The proponent's heritage consultant must develop an appropriate methodological assessment program to be submitted to the Branch for review prior to implementation.

It is especially important to utilize varied resource specialists at this stage of assessment. In particular, the evaluation of any heritage resource - archaeological, paleontological, historical, or architectural - should be performed by professionally qualified individuals. The involvement of researchers with varied expertise throughout this stage will help ensure that potentially significant data are not inadvertently overlooked.

3.5.2.1 Significance Criteria

There are several kinds of significance - scientific, public, ethnic, historic and economic - that need to be taken into account when evaluating heritage

resources. For any site, explicit criteria are used to measure these values. Checklists of criteria for evaluating archaeological, historical, architectural and paleontological sites are provided in Appendix D through G. These checklists are not intended to be exhaustive or inflexible. Rather, the user should add to and revise them as necessary. Innovative approaches to site evaluation which emphasize quantitative analysis and objectives are encouraged.

The process used to derive a measure of relative site significance must be rigorously documented, particularly the system for ranking or weighing various evaluatory criteria.

The basic areas of significance that need to be considered for site evalution are as follows.

3.5.2.2 Scientific Significance

Heritage resources may be of scientific value in two respects. The potential to yield information which, if properly recovered, will enhance understanding of British Columbia's heritage, is one appropriate measure of scientific significance. In this respect, heritage sites should be evaluated in terms of their potential to resolve current heritage research problems. Scientific significance also refers to the potential for relevant contributions to other academic disciplines or to industry.

3.5.2.3 Public Significance

Public significance refers to the potential a site has for enhancing the public's understanding and appreciation of the past. In this respect, the

interpretative, educational, and recreational potential of a site are valid indications of public value. Over and above those criteria for assessing scientific significance, public significance criteria such as ease of access, land ownership, or a scenic setting, are often external to the site itself. The relevance of heritage resource data to private industry may also be interpreted as a particular kind of public significance.

3.5.2.4 Ethnic Significance

Ethnic significance applies to heritage sites which have value to an ethnically distinct community or group of people. Archaeological, historical, and architectural sites may have some degree of ethnic value. Determining the ethnic significance of a heritage site may require consultation with those persons who occupy or have occupied it, their descendants, or people who presently own or live near the site. It is essential that ethnic significance be assessed by someone properly trained at obtaining and evaluating such data (i.e. ethnologists, behavioral scientists etc.).

3.5.2.5 Historical Significance

Historical sites can be readily associated with individuals or events that made an important, lasting contribution to the development of a particular locality or the province. Historically important sites also reflect or commemorate the historic socioeconomic character of an area. Historical significance applies to both architectural and historical sites, including those of an archaeological

nature. Normally, sites having high historical value will also have high public value.

3.5.2.6 Economic Significance

The economic or monetary value of a heritage site, where calculable, is also an important indication of significance. In some cases, it may be possible to project monetary benefits derived from the public's use of a heritage site as an educational or recreational facility. This may be accomplished by employing established economic evaluation methods, most of which have been developed for valuating outdoor recreation. The objective is to determine the willingness of users, including local residents and tourists, to pay for the experiences or services the site provides even though no payment is presently being made. Calculation of user benefits will normally require some study of the visitor population.

3.5.2.7 Integrity

Both the integrity and physical condition of a heritage site are also important considerations for site evaluation. Integrity refers to the degree of authenticity of a site, and in this respect, pertains chiefly to historical buildings or architectural sites. These heritage properties may possess integrity of design, workmanship, materials, location, or setting. Condition applies to all heritage sites and refers to the degree of disturbance or dilapidation. However, neither the integrity nor physical condition of a heritage site alone are sufficient to establish significance. An archaeological site, for example, may be in poor condition but still contain important scientific information. Integrity and

physical condition are probably best viewed as specific criteria for measuring certain types of significance, particularly public significance.

3.5.2.8 Evaluative Testing

Evaluative testing or "test excavation" is appropriate at sites containing buried cultural or paleontological materials. Evaluative testing implies "controlled" excavation of a portion of such sites using established data recovery techniques. The objective is to gain a sufficient impression of the content and structure of a site so that a reliable assessment of significance can be made. Evaluative testing also permits accurate cost estimates for full-scale excavation should this activity be necessary.

Evaluative testing involves:

(a) placement of one or more excavation units (normally 1m by 1m, or 2m by 2m);

(b) systematic excavation by stratigraphic or arbitrary levels;

(c) mapping, measuring, and recording horizontal and vertical provenience of all cultural items or other relevant materials observed within each excavation unit;

(d) recovery and cataloguing of all recorded materials.

Profile drawings or scaled maps of the stratigraphy and features exposed in the walls of an excavation unit should also be prepared where appropriate. Site significance is based on the subsequent analysis and interpretation of recovered materials and the context in which they were found.

Evaluative testing should not be interpreted as a full-scale data recovery or mitigation operation since it is not intended to alleviate adverse impacts or resolve conflicts with a proposed project. The appropriate number of units to excavate for evaluation purposes will vary depending on the particular characteristics of a site, especially its horizontal and vertical dimensions and structural complexity. In some cases, a single excavation unit will be appropriate. In others, several units systematically or judgementally placed across the site area, will be required. Natural and artificial exposures such as cut-banks, should be used where possible to supplement or even replace, actual excavation units.

3.5.2.9 Surface Collecting

Surface collecting is employed wherever archaeological, historical or paleontological remains were evident on the ground surface. However, where these sites contain buried deposits, some degree of evaluative testing is also required. Surface collecting involves:

(a) placing an appropriate grid network over the site area or some portion thereof;

(b) mapping, measuring, and recording all cultural items and other relevant materials observed within the grid system;

(c) collecting and cataloguing recorded materials, usually from systematically selected grid units.

Systematic surface collection from archaeological sites should be limited, insofar as possible, to a representative sample of materials. Surface collecting from paleontological sites should normally be restricted to a representative sample of diagnostic

specimens. Unless a site is exceptionally small and limited to the surface, no attempt should be made at this stage to collect all or even a major portion of the materials. Intensive surface collecting should be reserved for full scale data recovery if mitigative studies are required. Site significance is determined following an analysis of the surface-collected materials.

3.5.2.10 Describing the Impact

A heritage resource impact may be broadly defined as the net change between the integrity or condition of a heritage site with and without the proposed development. This change in site condition or integrity may be either beneficial or adverse.

Beneficial impacts occur wherever a proposed development actively protects, preserves or enhances a heritage resource. For example, development may have a beneficial effect by removing or lessening natural site erosion. Similarly, an action may serve to preserve a site for future investigation by covering it with a protective layer of sand or fill. In other cases, the public or economic significance of a heritage site may be enhanced by actions which facilitate non-destructive public use of a site. Although beneficial impacts are unlikely to occur frequently, they should be included in the assessment.

More commonly, the effects of a project on heritage sites are of an adverse nature. Adverse impacts occur under conditions that include:

(a) destruction or alteration of all or part of a heritage site;

(b) isolation of a site from its natural setting;

(c) introduction of physical, chemical, visual, audible, or atmospheric elements that are out-of-character with the heritage resource and its setting.

Adverse effects can be more specifically defined as direct, indirect, or potential impacts.

Direct impacts are the immediately demonstrable effects of a project which can be attributed to particular land modifying actions. They are directly caused by a project or its ancillary facilities and occur at the same time and place. The immediate consequences of a project action, such as slope failure following reservoir inundation, is also a direct impact.

Indirect impacts result from activities other than actual project actions. Nevertheless, they are clearly induced by a project and would not occur without it. Indirect impacts normally occur at the same time as the development, but not necessarily in the immediate project area. For example, the accelerated erosion of a heritage site resulting from alterations in normal flow patterns downstream from a project site would be an indirect impact. Increased vandalism of heritage sites, resulting from improved or newly introduced access, is also considered an indirect impact.

Indirect impacts can also be related to other factors, such as socioeconomic changes in an area. Changes in land use or population density such as increased urban, industrial, agricultural, or recreational development are sources of potential adverse impact on heritage sites. Over time, these impacts can have

greater adverse effect than the more rapid direct changes. Indirect impacts however, are much more difficult to assess and quantify than all those impacts of a direct nature.

3.5.2.11 Assessing Level of Effect

Once all project-related impacts are identified, it is necessary to determine their individual level of effect on heritage resources. The assessment is intended to determine the extent or degree to which future opportunities for scientific research, preservation, or public appreciation are foreclosed or otherwise adversely affected by a proposed action. In doing so, the assessment provides a reasonable indication of the relative significance or importance of an impact. Normally, the assessment should follow site evaluation since it is important to know what heritage values may be adversely affected.

The assessment should include careful consideration of the following level-of-effect indicators:

- magnitude
- severity
- duration
- range
- frequency
- diversity
- cumulative effect
- rate of change

Each of these indicators is defined in Appendix H.

Assessing level-of-effect should be conducted and reported in a quantitative and objective fashion. As with site evaluation, all methodological aspects, particularly the system of ranking level-of-effect

indicators, must be rigorously documented. Areas of uncertainty in impact assessment should also be identified and means of dealing with or managing uncertainty recommended.

3.6 MITIGATION/COMPENSATION

Studies involving mitigation and/or compensation pertain only to situations where unavoidable conflicts between heritage resources and a proposed development are identified. The nature and extent to which these studies will apply should have been identified through the detailed impact assessment.

In the case of mitigative management, some form of systematic data recovery, analysis and interpretation of specific heritage resources will be involved. The proponent and/or his heritage consultant will be required to submit a detailed research proposal to the Branch prior to commencement.

This level of study involves the effective, professional management of endangered heritage sites within the project area. The primary objectives are to:

(a) implement acceptable measures for mitigating adverse impacts before they occur, or alternatively, for compensating resource losses;

(b) report the objectives, methods and results of impact management;

(c) report the need for and general scope of any follow-up surveillance or monitoring.

Mitigation refers to measures that reduce deleterious effects of project construction, operation, and maintenance on heritage resource values. Actions designed to prevent or avoid adverse impacts are also regarded as mitigation. In principle, mitigative measures should only be undertaken if the benefits of such measures exceed the costs.

Compensation refers to payments or alternative programs to redress losses in heritage resource values which occur despite mitigation efforts.

In practise, defining optimum level of mitigation or compensation is hindered by the fact that heritage resource values and preservation benefits are not easily measured in economic terms. Determining publicly and professionally acceptable levels will usually necessitate discussion with the Branch. The overriding objective is to promote efficiency and equity.

3.6.1 Mitigation

Various options are available for mitigation of adverse impacts on heritage sites, including changes in project design that are more compatible with heritage conservation: site protection measures and varying levels of, and approaches to, systematic data recovery. Which mitigative measure should be implemented in any specific case depends on:

(a) the significance of the resource;

(b) the nature of the impact;

(c) the relative effectiveness of the measure;

(d) research and resource management priorities and needs;

(e) project objectives, conditions and constraints.

Some degree of surveillance is usually required during project implementation to document the results of mitigation efforts.

3.6.1.1 Project Design Changes

An important means of mitigation of adverse project impacts on heritage sites is to institute changes in the design or location of a project, or to alter the level of development intensity. Design alternatives were recommended in the detailed impacts assessment study and subsequently incorporated into final project design. The results of this mitigation need to be reported only in the event follow-up surveillance is required.

Alterations in project design are viable mitigation measures wherever adverse impacts on heritage sites are avoided or reduced as a result. Impacts can be avoided by relocating project facilities such as construction camps, stockpiles and transmission towers, or re-aligning linear developments such as oil and gas pipelines, transmission lines, railways, and roads. Fences or other suitable barriers should be erected, despite avoidance measures, as an added precaution where heritage sites are situated close to a construction area. Avoidance is always the preferred mitigation measure as it ensures complete in situ protection of the resource for future investigation or use. Moreover, it is often the least costly measure to implement.

Reducing the effects of project actions on heritage sites can be accomplished by decreasing the amount of development or by using construction practices which minimize ground disturbance. Examples include restricting the use of heavy machinery on a site, clearing land over suitable snow cover, or using smaller and fewer project buildings or only those without subsurface foundations.

3.6.1.2 Site Protection

Heritage preservation can also be achieved through measures that prevent or forestall site destruction. Site protection measures include protective covering, stabilization, and physical barriers. The feasibility and suitability of implementing one or other protective measure may require geophysical assessment.

Site capping or burial involves judiciously covering a heritage site, typically archaeological sites, with fill, asphalt, sand, peat, concrete, plastic, or other material. Once capped, project construction or other activity may be permitted to occur unimpeded over the site. In some cases, project buildings or other structures are suitable protective covering. Site capping is an appropriate mitigative measure provided it is indeed nondestructive. It must be demonstrated that by burying the site, important data will not be irrevocably lost through compaction, accelerated decomposition, horizontal displacement, or subtle changes in soil chemistry. In addition, capping must take into account the degree to which future investigation and use may be foreclosed because of the inaccessbility of a site.

Stabilization measures are appropriate in areas of high slope or shoreline instability where project-induced failure is anticipated. Under these conditions, the destruction or erosion of heritage sites can be prevented by constructing retainments or applying landscaping practises such as differential clearing, buffer strips, or slope terracing. For historic buildings and architectural sites, stabilization involves structural rehabilitation or enhancement. Stabilization should enable these sites to

withstand project impacts.

Site protection measures also include physical barriers such as fences, dykes, gabions, and groynes. Water diversion channels designed to minimze erosional processes are also protective barriers of sorts.

A suitable buffer-zone, within which no land alteration or other activity is permitted, is usually necessary to ensure adequate site protection. Buffer width should depend on the degree of uncertainty concerning site size and the type of activity proposed.

Heritage site vandalism, or the unlicensed collection of artifacts and "digging" of sites, is often an indirect consequence of a project. Vandalism may be precipitated by disclosing site locations or by facilitating public access to otherwise inaccessible areas. Although site protection measures can play an important role in controlling vandalism, other approaches are usually required. Site vandalism is primarily an educational problem and can be managed as such. One approach is to conduct information programs for project personnel that promote heritage conservation and discourage vandalism. Development of heritage sites as special interest areas can serve to deter vandalism while allowing the resource to be of some direct public benefit. An ongoing program of patrolling and monitoring heritage sites should also be considered.

3.6.1.3 Systematic Data Recovery

The scientific and systematic investigation and recovery of data from heritage sites represents a third, but less desirable, mitigation option. A

principal disadvantage is that the recovery process itself is destructive, foreclosing any future opportunities for scientific research, preservation or public appreciation. Furthermore, even the most intensive and sophisticated recovery program or excavation is seldom able to retrieve all the data in a heritage site; invariably a great deal of information is lost. Proper data recovery and analysis, particularly where archaeological resources are concerned, is also very time-consuming and expensive. Moreover, recovery costs are often difficult to estimate accurately. Systematic data recovery should be considered only as a last resort when both avoidance and site protection measures are impractical.

Where data recovery is the only viable mitigative option, it should be based on an adaptive, flexible research design and employ professionally accepted methods and techniques. Data recovery should aim to generate further scientific understanding and enhance public appreciation and awareness of the resource. Multi-disciplinary collaboration and problem-oriented research are encouraged. Heritage research goals will vary depending on current regional research and resource management priorities and needs. However, once defined, the specific research problems and objectives constitute the limits of a proponent's responsiblity in data recovery and analysis. The level or intensity of data recovery, in any specific case, will depend on the number of sites involved, their significance, size and structural complexity, and the level of adverse effect. Because proper understanding of a heritage site depends on knowledge of the larger system into which it fits, adequate mitigation may require investigation of other unaffected sites.

Systematic data recovery of archaeological and paleontological sites involves:

(a) a complete or partial systematic surface collection, excavation, or both;

(b) a comparative analysis and interpretation of content and contextual information;

(c) production of an investigative report.

Systematic data recovery of historical and architectural sites includes:

(a) production of measured drawings and photographs;

(b) disassembly and removal of all or part of a structure;

(c) collection of specimens;

(d) a comparative analysis and interpretation of the site and production of an investigative report.

All recovered data must be analyzed, interpreted, and reported. Proper curation of materials must be arranged beforehand. The materials as well as all relevant records of the investigation must be available and accessible to future researchers.

3.6.2 Compensation

Unavoidable losses of significant heritage resources as a result of a project should be compensated either in cash or in kind. Compensation-in-cash refers to direct monetary payment. The Branch will determine, depending on equity and efficiency considerations, to whom the payment should be made.

Compensation-in-kind refers to all compensative actions other than direct cash settlement. An important form of compensation-in-kind is the acquisition of property,

unaffected by project development, for the purpose of establishing heritage reserves. In principle, the land or heritage property to be acquired should be equivalent to the foreclosed resources in terms of geographic or topographic setting, type of resource, integrity or condition, significance and other factors.

Compensation-in-kind also includes a wide range of public-oriented heritage programs and specific investigative projects. Compensative programs, whether of local, regional, or provincial scale, may represent various themes including conservation, preservation or commemoration. The main objective in each case should be to enhance public understanding and awareness of British Columbia's heritage and heritage resources. Compensative projects include a broad range of site-specific activities including restoration, reconstruction, and development. Site surveys or investigations, including systematic data recovery in areas unaffected by a project, may also be suitable compensative measures.

3.7 SURVEILLANCE/MONITORING

Surveillance and/or monitoring programs are necessary primarily in only two situations. The first arises when the detailed impact assessment has recommended resource management procedures designed to protect heritage resources during the construction phase of a proposed development. The second situation arises where unidentifed heritage resources are considered to have high probability of occurring in a proposed development zone but are not likely to be identified through an inventory study (i.e. burial sites, paleontological sites, etc.).

This level of programming involves management of impacts on heritage resources within the project area. Emphasis here is

placed on identifying and controlling impacts which could not reasonably have been predicted earlier. The objectives at this phase are to:

(a) oversee construction activities designed to avoid or mitigate impacts on heritage sites;

(b) monitor project actions during and following construction in selected areas;

(c) implement emergency impact management measures if necessary;

(d) report the results of impact management.

Surveillance, monitoring, and emergency impact managment are the principal management activities. A surveillance and monitoring program identifying precise areas of concern, scheduling aspects, objectives, and methods is initially recommended following detailed impact assessment. Where the need for intensive surveillance or monitoring is anticipated the Branch will prepare comprehensive terms of reference for the program.

The proponent is normally responsible for the cost of all impact management in this phase. The management activities must be directed and conducted by qualified heritage resource specialists. On occasion, surveillance or monitoring may be performed by Branch personnel.

3.7.1 Surveillance

Surveillance is undertaken to ensure compliance with and proper execution of adopted mitigation measures, particularly any conditions or restrictions on the nature of construction or level of development. Surveillance is also necessary where heritage site protection measures are implemented before or during project construction.

3.7.2 Monitoring

Monitoring is undertaken to ensure that adverse project impacts on heritage sites which could not be predicted or evaluated beforehand do not go unnoticed. Project actions that may unexpectedly expose and disturb recorded as well as previously unknown sites warrant at least periodic monitoring. For example, the shoreline of a newly created reservoir should be monitored during the stabilization period to document unanticipated impacts on heritage sites resulting from slope and shoreline erosion.

Monitoring is generally warranted where a heritage site, although intentionally avoided by construction or other activity, is situated close to the area of impact. This is especially true if there is uncertainty concerning the areal extent of the site. Monitoring is also important if there is uncertainty concerning the effectiveness of a site protection measure, or the magnitude, severity or duration of an impact.

Monitoring should also be conducted in areas suspected of containing important heritage sites. The objective is to locate sites that are inadvertently exposed and disturbed by project actions. Typically, these are deeply buried sites lacking surface definition.

3.7.3 Emergency Impact Management

It is occasionally necessary to implement emergency measures to mitigate unanticipated impacts on heritage sites. Emergency impact management may be required where mitigation efforts are found to be ineffective or fail outright, or where project actions have inadvertently uncovered significant heritage sites.

Emergency impact management involves one or more of the following actions:

(a) avoidance through partial or complete project redesign or relocation;

(b) application of site protection measures;

(c) salvage or emergency excavation.

Salvage excavation implies rapid data recovery with little or no opportunity for problem-oriented research. The principal objective is simply to recover data which would otherwise be lost. Salvage excavation differs significantly from systematic data recovery which is initiated before construction. Neither strategy is intended to replace the other.

Where unpredicted impacts occur, all activities which will further damage the heritage site must be stopped. The Branch should be notified immediately. The overriding objective, where remedial action is warranted, is to minimize disruption in construction scheduling.

APPENDIX A

GUIDELINES FOR REPORT CONTENT

OVERVIEW ASSESSMENT REPORT

Title Page

The title page should include:

(a) the official project name and location,
(b) the type of heritage resource assessment,
(c) the number of the permit or ministerial order under which the research activities were authorized, if applicable,
(d) the name and address of the agency for which the report was prepared,
(e) the report date,
(f) the author's signature and title.

Credit Sheet

The credit sheet should contain the names, addresses and professional affiliations of the principal contributors to the overview study including:

(a) the director or supervisor,
(b) researchers,
(c) report author.

Management Summary

The management summary should contain a brief overview of the study. Important findings and major recommendations should be emphasized.

Table of Contents

The table of contents should be arranged in accordance with the sequence of topical headings and their corresponding page numbers.

List of Figures, Tables, Appendices

All figures, tables and appendices should be referenced by title and page number, and listed according to the order in which they appear in the text of the report.

Introduction

The introduction should include:

(a) the name of the proponent and general nature of the proposed development,
(b) project planning objectives,
(c) the objectives and general scope of the heritage overview assessment,
(d) the agency and persons conducting the assessment and the kinds of professional expertise involved,
(e) the dates and duration of the study,
(f) the organizational format of the report.

Proposed Project

This section should contain a brief summary of all pertinent development aspects of the proposed project. With the aid of maps, engineering plans, photos and other materials, the discussion should include, insofar as possible:

(a) boundaries of the projected impact zone or study area for each project alternative considered,

(b) the kinds and anticipated locations of all ancillary facilities,
(c) general kinds of impacts the proposed project would likely have on heritage resources in the study area,
(d) aspects of project scheduling,
(e) alternative project designs or locations.

Study Area

This section should contain a brief description of the study area. The discussion should emphasize biophysical characterisics, both past and present, that may have influenced the density, distribution, variety, and potential significance of heritage resources.

Methodology

The basic research plan and the precise methods and equipment used to implement the plan should be documented in this section. Where the overview focuses on selecting a preferred project design from among several alternatives, the role of heritage data in the selection process should be described.

Results

This section should contain the results of documentary research, direct consultation, and if applicable, preliminary field reconnaissance. Information should be reported here only to the extent that it relates to the basic objectives of the overview assessment. Results of the background research should include:

(a) a description of past land uses,

(b) a summary of previous heritage surveys, investigations, or other projects within, or immediately adjacent to, the study area,
(c) a brief narrative description of all heritage sites reported in the study area and a map showing their location.

Results of preliminary field reconnaissance should include:

(d) maps showing areas surveyed,
(e) maps showing the location of all sites observed and recorded,
(f) a brief narrative description and photo record of all recorded sites,
(g) results of subsurface testing, surface collecting, or both, if applicable,
(h) a description of all cultural materials observed or collected,
(i) results of experiments to determine a suitable heritage site survey strategy for the study area.

Evaluation and Discussion

The assessment of heritage resource potential in the study area, based on the major findings of background research and preliminary field reconnaissance, should be presented here. The assessment should be made from a local, regional and provincial perspective and should be based on known heritage sites, as well as reported and predicted sites. In this section, the proponent should:

(a) identify major information gaps in the heritage resource base,
(b) state predictions about the kinds and number of heritage sites to be expected,

(c) discuss and, insofar as possible, interpret the nature, distribution, and potential significance of heritage resource values within the study area,
(d) discuss, in general terms, potential impacts on the heritage resources base and possible options for managing impacts,
(e) discuss local public attitude toward potential project impacts on heritage resources.

Recommendations

The need for further heritage studies and the scope of these studies, should be identified and discussed here. If appropriate, the discussion should be directed toward the preferred project alternative selected or the basis of engineering, socioeconomic, and environmental considerations. Recommendations for further assessment should include:

(a) maps showing precise areas requiring intensive field survey,
(b) justification for no survey action in areas suggesting high heritage resource potential,
(c) a description of areas requiring special field consideration,
(d) the site survey strategy and methods to be used.

References Cited

A comprehensive list of all literary sources cited in the overview report such as publications, documents, and records should be presented in this section. The reference list should also include names and dates of all personal communications.

Appendices

A variety of items should be appended to the overview report including:

(a) a copy of the proponent's or consultant's terms of reference for the overview studies,

(b) a bibliogrpahy of data sources consulted, but not necessarily cited in the report, which may be useful for future research,

(c) names and addresses of persons or organizations interviewed during the background research phase of the study,

(d) a list of all recorded heritage sites in the study areas as well as unrecorded sites reported in the literature or through informant interviews.

A detailed impact assessment research proposal indicating specific study objectives, inventory, evaluation and impact assessment methods, work schedules, and other information may also be appended to the overview report. In some cases, the report itself may constitute the detailed impact assessment proposal.

DETAILED IMPACT ASSESSMENT REPORT

Introduction

The introduction should include:

(a) the proponent's name and general nature of the project,
(b) the objective and scope of detailed impact assessment,
(c) the persons conducting the assessment and the kinds of professional expertise involved,
(d) the dates and duration of the study,
(e) the organizational format of the report.

Proposed Project

This section should contain a progress report on project planning. Engineering plans, photos, and other illustrative materials, should be used to discuss:

(a) project design planning and heritage resource assessment to date,
(b) any changes in the original project design or in the level of development,
(c) precise boundaries of the project area including locations of all ancillary activities and facilities,
(d) the projected extent and level of land alteration or disturbance,
(e) project scheduling.

Project Area

This section should contain a brief description of the project area. Emphasis should be placed on relating the project area to the natural and cultural environments. The area of project impact may have been sufficiently described in the overview report, in which case, a brief summary of and proper reference to the document will suffice. Description of the project area should include:

(a) biophysical features such a physiography, drainage, fauna, and flora,
(b) a discussion of past and present ecological conditions that bear upon human settlement and land use,
(c) past and present land use practices,
(d) the condition of the land, particularly the extent of alteration from agricultural activity, forest harvesting, or other intensive land uses,
(e) weather conditions and patterns, particularly as they relate to or affect the conduct and scheduling of fieldwork.

Methodology

The basic research plan and the precise methods and equipment used to implement the plan should be outlined in this section. Each assessment activity (inventory, site evaluation, and impact identification and assessment) should be described individually. The discussions should include:

Inventory

(a) a thorough account of the sampling design, particularly sample selection and size,

(b) the rationale underlying any stratification of the project area according to the heritage potential, and the level of survey intensity in these strata,

(c) the number of surveyors, the manner in which they were deployed over the survey area including distance intervals and direction of travel, and the amount of time spent surveying any one area,

(d) location of areas exempt from survey,

(e) where and how often subsurface testing was employed, and the particular techniques or practices used including test frequency, interval spacing, and unit dimensions,

(f) historical and architectural site survey design including sampling techniques and survey intensity,

(g) site recording practices,

(h) sources consulted in designing the site inventory strategy.

Site Evaluation

(i) information sources used such as evaluative testing, surface collecting, direct consultation, documentary research, or others,

(j) evaluative testing procedures including unit sampling or selection, test frequency, unit dimensions, mapping, recording, and data recovery practices,

(k) surface collecting procedures including sampling design, recording, and collection practices,

(l) the process used to derive a measure of relative site significance including the system of ranking or weighting various significance criteria and the rationale underlying the process,

(m) the kinds of professional expertise involved,

Impact Identification and Assessment

(n) how project impacts were identified,
(o) the process used to assess impacts on heritage resources including assessment criteria, their relative weighting, and the rationale underlying the process.

Resource Inventory

This section should contain results of the heritage site inventory including:

(a) maps showing areas surveyed, and indicating the level of survey intensity,
(b) maps showing all recorded heritage sites in relation to the proposed project,
(c) the number of heritage sites recorded and the total anticipated in the project area,
(d) a brief narrative or tabular description of each site including present condition and use, distinguishing features, and its general relationship to the regional environment and cultural setting,
(e) a qualitative and quantitative summary of all cultural material or features observed or collected,
(f) an interpretation of the heritage resource inventory including observed spatial patterning of sites in the project area, temporal, functional, and contextual characteristicis, and comparisons with other local or regional resources,
(g) an explanation of negative results such as where and why were heritage sites absent in areas suspected of having moderate to high resource potential,

(h) any further predictions concerning potential resource variability, density, distribution and importance in the project area.

Resource Evaluation

The relative significance of each evaluated site should be presented here. The discussion should include:

(a) specific criteria used to measure relative site significance,
(b) site-specific assessments in tabular form,
(c) a map illustrating heritage sites of high, medium, and low significance in relation to the proposed project.

Impact Identification and Assessment

This section should contain a comprehensive statement of impacts and a thorough assessment of their level of effect. An impact matrix relating development actions to recorded heritage resources is recommended. The impact assessment should include:

(a) a map of the project delineating areas of direct, indirect, and potential impact and showing all recorded heritage sites,
(b) impacts which have occurred to date from exploration, engineering, and other feasibility studies,
(c) the level of effect of project impacts on heritage values,
(d) areas of uncertainty regarding the impact assessment,
(e) a schedule relating the timing of impacts to development phases,

(f) impacts and the rate of resource depletion expected without the proposed project.

Evaluation of Research

This section should contain a critical evaluation of the detailed impact assessment study. The discussion should address:

(a) the accuracay of overview predictions regarding heritage resource density, distribution, variety, and significnace in the project area,
(b) the suitability of the inventory strategy and site survey techniques employed, and the level of confidence that can be placed on the survey results,
(c) the suitability and reliability of the site evaluation and impact assessment methods employed,
(d) the relationship between the results and the stated objectives of the assessment study, including problem-oriented research objectives if applicable,
(e) appropriate research goals, objectives, or opportunities for any subsequent heritage studies in the project area.

Impact Management Recommendations

The proponent's recommendation for managing unavoidable adverse impacts on heritage sites are presented here. Mitigation measures should be recommended for each impacted site. Recommendations should be presented in sufficient detail to allow the Branch to comment on their appropriateness. This section should also include:

(a) a reference to those heritage sites which can be avoided by project design modifications,

(b) a discussion of the process used to select an impact management action from among various possible alternative actions for any specific site,
(c) justification for not recommending site-specific action,
(d) heritage compensation recommendations,
(e) recommendations or a tentative schedule for conducting surveillance, monitoring, or both during project implementation and operation.

References Cited

A comprehensive list of all literary sources cited in the report such as publications, documents and records should be presented in this section. The reference list should also include names and dates of all personal communications.

Appendices

A variety of items should be appended to the report including:

(a) a copy of the consultant's terms of reference for detailed impact assessment study,
(b) appropriate tables, charts, graphs, maps, photos, and other supportive materials,
(c) a list of all recorded heritage sites, referenced by their appropriate "Borden" number and arranged according to either adverse impact or no adverse impact.

A detailed proposal for implementing mitigation or compensation studies may also be appended to the report. However, the proposal may require revision if deficiences in the report are identified.

MITIGATION REPORT

Introduction

The introduction should include:

(a) the name of the proponent and general nature of the project,
(b) how the study integrates or coordinates with project planning and scheduling,
(c) the objectives and scope of the impact management operation including specific research problems,
(d) the dates and duration of the study,
(e) the persons conducting the study and the kinds of professional expertise involved,
(f) the organizational format of the report.

Study Area

This section should contain a succinct description of the location and boundaries of the study area including specific areas in which mitigation activities were undertaken. Previous studies which provide comprehensive descriptions of the study area should be referenced. However, biophysical, socioeconomic, political, or cultural factors which have a direct and pertinent bearing on the study should be explicitly stated.

Methodology

The basic research plan and the precise methods and equipment used to implement the plan should be documented in this section. All relevant aspects of the operating environment should be discussed.

Results and Discussions

The results of the mitigation or compensation should be presented and discussed here. A thorough analysis of all recovered data should be provided.

Interpretation

An interpretation of results is primarily for systematic data recovery or other investigative projects. The interpretation should focus on the research problems and study objectives initially identified.

Conclusions and Recommendations

This section should contain a synthesis of the impact management studies. New research problems and hypotheses generated by systematic data recovery or for future research and resource management should also be included.

References Cited

All literary sources cited in the report such as publications, documents, and records, as well as names and dates of all personal communications should be listed here.

Appendices

A variety of items should be appended to the report including:

(a) appropriate tables, charts, graphs, maps, and other supportive materials,

(b) a list of recorded heritage sites directly relevant to the study,

(c) a complete catalogue of all cultural materials, faunal and floral remains, and ancillary samples collected during systematic data recovery operations.

Detailed guidelines for conducting and reporting archaeological excavations are available from the Branch.

APPENDIX B

HERITAGE CONSERVATION ACT OF BRITISH COLOUMBIA

HERITAGE CONSERVATION ACT

CHAPTER 165

Part		Section
1	Introduction	1 - 3
2	Provincial Heritage Conservation	4 - 9
3	Municipal Heritage Conservation	10 - 15
4	The British Columbia Heritage Trust	16 - 26
5	General and Transitional Provisions	27 - 30

PART 1

Interpretation

1. In this Act

"board" means the board of directors of the trust;

"council" means a council under the *Municipal Act* or the *Vancouver Charter*;

"designate" means designate under Part 2 or Part 3, as the case may be;

"heritage" means of historic, architectural, archaeological, palaeontological or scenic significance to the Province or a municipality, as the case may be;

"heritage object" means, whether designated or not, personal property of heritage significance;

"heritage site" means, whether designated or not, land, including land covered by water, of heritage significance;

"municipal heritage site" means a heritage site designated under Part 3;

"Provincial heritage site" means a heritage site designated under Part 2;

"trust" means the British Columbia Heritage Trust established by Part 4.

1977-37-1.

Purpose of Act

2. The purpose of this Act is to encourage and facilitate the protection and conservation of heritage property in the Province.

1977-37-2.

Registry

3. (1) The minister shall maintain a registry of designated heritage sites and designated heritage objects.

(2) A council, on designation of a municipal heritage site, or on variation or revocation of a designation, shall notify the minister in the prescribed form.

1977-37-3.

PART 2

Designation

4. (1) The Lieutenant Governor in Council may designate

(a) land as a Provincial heritage site; or

(b) personal property as a heritage object.

(2) Where designation under subsection (1) (a) decreases the economic value of land, the minister shall pay to the owner of the land an amount to be determined by order of the Lieutenant Governor in Council.

(3) The amount paid under subsection (2) shall be deemed full and fair compensation for loss or damage suffered by the owner as a result of the designation.

1977-37-4

Permits

5. (1) The minister, or a person authorized in writing by him for the purpose, may issue a permit to excavate or alter a Provincial heritage site and to remove, move or alter heritage objects from it, and may

(a) limit the application of the terms of a permit to a time period or location;

(b) require a permit holder to provide the minister with reports the minister considers necessary and proper; or

(c) impose other terms and conditions he considers necessary and proper.

(2) The minister may cancel or suspend a permit issued under this section.

1977-37-5

Duties and prohibitions

6. (1) No person shall remove, or attempt to remove, a designated heritage object from the Province without the prior written consent of the minister.

(2) No person shall, except as authorized by a permit under section 5, knowingly

(a) destroy, desecrate, deface, move, excavate or alter a Provincial heritage site, or a heritage object, designated under this Part;

(b) destroy, desecrate or alter a burial place of historic or archaeological significance or remove skeletal remains from it;

(c) destroy, deface or alter a North American Indian painting or rock carving of historic or archaeological significance; or

(d) destroy, deface, alter, excavate or dig in a North American Indian kitchen midden, shell heap, house pit, cave or other habitation site, cairn or fortification.

(3) No person shall damage or remove a notice or order erected under section 8.

1977-37-6

Preventive measures

7. (1) In this section

"site investigation" means the examination of a heritage site for recording, removing, moving or salvaging a heritage object;

"site survey" means the examination of land for assessing the heritage significance of the land or other property located on the land.

(2) Where, in the opinion of the minister, land contains a heritage site, he may order a site survey, or, where he considers circumstances warrant, a site investigation.

(3) Where, in the opinion of the minister, a heritage site may be altered, damaged or destroyed or is likely to depreciate or become dilapidated, he may order

(a) a site survey, or, where he considers circumstances warrant, a site investigation; and

(b) the owner of the heritage site to

(i) pay for the site survey or site investigation; and

(ii) preserve the heritage site until the site survey or site investigation is completed.

(4) Where a site survey or site investigation is ordered under this section, it shall be undertaken at once and in a manner that will not cause undue hardship to the owner of the land.

(5) Where necessary to make a site survey or site investigation ordered under this section, a person may enter land and no action for loss, damage or trespass shall be brought for anything done or omitted by him in good faith under this section.

1977-37-7.

Notices

8. The minister may erect and maintain a notice referring to this Act, or an order made under this Part, on or near a Provincial heritage site, and no action for loss, damage or trespass shall be brought for anything done or omitted in good faith under this section.

1977-37-8

Provincial heritage advisory board

9. (1) The Lieutenant Governor in Council may, on the recommendation of the minister, establish a Provincial heritage advisory board to advise the minister under this Part and may appoint the number of persons he considers necessary as members of the Provincial heritage advisory board.

(2) A member of the Provincial heritage advisory board shall be paid reasonable travelling and out of pocket expenses necessarily incurred in the discharge of duties.

1977-37-9

PART 3

Interpretation

10. In this Part "building, structure or land" means building, structure or land within the municipality, and a council shall follow the practices and procedures applicable to it under the *Municipal Act* or the *Vancouver Charter*, as the case may be.

1977-37-10.

Designation

11. (1) A council may, by bylaw, designate a building, structure or land, in whole or in part, as a municipal heritage site.

(2) No bylaw under subsection (1) shall be adopted by the council unless notice of its intention to consider the bylaw is

(a) delivered by registered mail to the owner of the building, structure or land, at least 10 days before the date of consideration by council of the motion to adopt the bylaw, advising him how he may object; and

(b) published in not less than 2 consecutive issues of a newspaper of general circulation within the municipality with the last publication appearing not less than 3 days, or more than 10 days, before the date described in paragraph (a).

(3) Notice under subsection (2) (a) shall be deemed to have been given 3 days after having been sent by registered mail addressed to the owner at his last known address.

(4) Where designation under subsection (1) decreases the economic value of the building, structure or land, the council may, by bylaw, provide a grant, loan, tax relief or other compensation to the owner.

(5) Compensation provided under subsection (4) shall be deemed to be full and fair compensation for loss or damage suffered by the owner through the designation.

1977-37-11.

Prohibition

12. No person shall

(a) demolish a building or structure;

(b) alter the facade or exterior of a building or structure; or

(c) build on land

designated under this Part without the prior approval, by resolution, of the council.

1977-37-12.

Powers

13. For this Part, a council may

(a) include provision for municipal heritage conservation in its annual budget;

(b) enter into agreements with any person including the government of the Province or of Canada;

(c) acquire covenants or easements; or

(d) acquire or dispose of property.

1977-37-13.

Temporary delay of work

14. (1) Notwithstanding a permit or enactment to the contrary,

(a) where a building, structure or land having possible heritage significance to a municipality may, in the opinion of the council, be altered, damaged or destroyed, the council may, by resolution, order that, for a period not exceeding 30 days, no person shall alter, damage or destroy the building, structure or land;

(b) where a bylaw is introduced in council under section 11, no person shall alter, damage or destroy the building, structure or land under consideration unless the council rejects the bylaw or 60 days pass after the making of the motion and it has not been adopted; and

(c) the alteration, damage or destruction of a building, structure or land may be delayed under paragraphs (a) and (b) for a total period not exceeding 90 days.

(2) Property shall be deemed not to be taken or injuriously affected by an order under subsection (1) (a) or the making of a motion described in subsection (1) (b).

1977-37-14.

Municipal heritage advisory committee

15. (1) A council may, by bylaw, establish a municipal heritage advisory committee to advise the council on any matter arising under this Part.

(2) The bylaw establishing a municipal heritage advisory committee shall set out the

(a) number of members of the committee and the manner of their appointment; and

(b) rules of practice and procedure regulating the business of the committee.

(3) Where a council establishes a municipal heritage advisory committee, the council may budget for and pay the expenses of the committee.

1977-37-15.

PART 4

British Columbia Heritage Trust continued

16. (1) The British Columbia Heritage Trust is continued consisting of the directors appointed to the board who, on their appointment, constitute a corporation.

(2) The trust is an agent of the Crown in right of the Province and the powers of the trust may be exercised only as an agent of the Crown in right of the Province.

(3) The *Company Act* does not apply to the trust but the Lieutenant Governor in Council may, by order, direct that the *Company Act*, or a provision in that Act, applies to the trust and it applies accordingly.

1977-37-16

Directors

17. (1) The Lieutenant Governor in Council shall appoint directors of the trust to serve at pleasure.

(2) The Lieutenant Governor shall designate one of the directors as chairman of the board and may designate one or more of the other directors to be vice chairman.

(3) Each director shall be reimbursed for reasonable travelling and out of pocket expenses necessarily incurred in the discharge of his duties, and may be paid remuneration for services the Lieutenant Governor in Council orders.

1977-37-17

Objects of trust

18. The objects of the trust are to support, encourage and facilitate the conservation, maintenance and restoration of heritage property in the Province.

1977-37-18

Employees and consultants

19. (1) There may be appointed under the *Public Service Act* employees of the trust the minister considers necessary.

(2) The *Pension (Public Service) Act* applies to the trust and its employees and the trust

(a) and its employees shall be deemed to be an employer and its employees within the meaning of that Act;

(b) shall make the deductions from the salaries of the employees as required under section 6 of that Act and pay the money to the commissioner under that Act; and

(c) shall in addition, pay to the commissioner employer's contributions in amounts equivalent to the employees' contributions made under sections 6 (1) and 7 (1) of that Act.

(3) The trust may require a bond under the *Bonding Act* from employees it designates.

(4) The trust may, with the approval of the minister, engage and retain persons it considers necessary as consultants, experts or specialists, and may fix their remuneration.

1977-37-19.

Powers

20. (1) To further its objects the trust may, with the approval of the minister,

(a) acquire and dispose of property;

(b) enter into an agreement, including an agreement for the acquisition of a covenant or an easement, with a person, including the government of Canada or of a province;

(c) conduct and arrange exhibits or activities to inform and stimulate the interest of the public in property of heritage significance;

(d) subject to a trust or agreement under which a property was obtained by the trust, dispose of the property and execute instruments required to effect the disposal;

(e) receive by donation, public subscription, devise, bequest or otherwise, money or property;

(f) assist in or undertake research, study or publication concerning its objects; and

(g) provide loans, grants, advice and other services to persons in the Province having aims and objectives similar to the trust.

(2) Where, in the opinion of the minister, it is necessary to ensure that the purpose of this Act is carried out, he may exercise the powers under subsection (1).

1977-37-20

Property of trust

21. Property acquired by the trust or minister is the property of the Crown in right of the Province and title to the property may be vested in the name of the Crown in right of the Province or in the name of the trust, but, notwithstanding the *Land Act*, the property shall be dealt with by the trust or minister under this Act.

1977-37-21

Heritage Fund

22. (1) The trust shall maintain a fund which consists of money received by the trust from any source.

(2) The trust may, subject to the approval of the minister and the trust or agreement under which money comprising the fund was received, disburse, expend or otherwise deal with money in the fund for the objects of the trust and necessarily attendant expenses.

1977-37-22

Deposit of money

23. (1) Money of the trust shall be deposited and kept in a savings institution designated by the minister and may be invested in securities authorized as trustee investments under the *Trustee Act*.

(2) Notwithstanding the *Revenue Act*, the money of the trust does not form part of the consolidated revenue fund.

1977-37-23.

Exemption from taxation

24. The trust is not liable to taxation, except in so far as the Crown in right of the Province is liable.

1977-37-24.

Fiscal year

25. The fiscal year end of the trust is March 31.

1977-37-25.

Financial administration

26. (1) The trust shall establish and maintain an accounting system satisfactory to the Minister of Finance, and shall, whenever required by him, render detailed accounts of its revenues and expenditure for a period or to a day he designates.

(2) Records of the trust shall be open for inspection by the minister or other person he designates.

(3) The Minister of Finance may direct the Comptroller General of the Province to examine and report to him on any or all of the financial and accounting operations of the trust.

(4) The accounts of the trust shall, at least once in every year, be audited and reported on by an auditor appointed by the trust.

(5) The trust shall, by a date specified by the minister, submit annually to the minister

(a) a report of the trust on its operations for the preceding fiscal year;

(b) a financial statement showing the assets and liabilities of the trust as of the end of the preceding fiscal year; and

(c) the annual report of the auditor of the trust.

(6) The report and financial statement referred to in subsection (5) shall be laid before the Legislative Assembly within 90 days after the end of the fiscal year for which the report and statement are made where the Legislative Assembly is then sitting, otherwise within 15 days after the opening of the next following session.

(7) The *Financial Information Act* applies to the trust.

1977-37-26.

PART 5

Easements and covenants

27. (1) An easement or covenant acquired under this Act by the Crown in right of the Province, the trust or a council may be registered in the land title office against the land affected by the easement or covenant.

(2) Where an easement or covenant entered into under this Act is registered in the land title office the easement or covenant shall run with the land and the Crown in right of the Province, the minister, the trust or a council, as the case may be, may enforce the easement or covenant

(a) against the owner or a subsequent owner of the land whether the easement or covenant is of a positive or negative nature; and

(b) even if the easement or covenant does not benefit land owned by the Crown in right of the Province, the trust or a council, as the case may be.

(3) An easement or covenant acquired under this Act and registered in a land title office may be assigned by the Crown in right of the Province, the trust or a council, as the case may be, to any person and shall continue to run with the land and may be enforced under subsection (2) by and in the name of that person.

1977-37-27.

Civil remedies

28. (1) Where a person alters property in contravention of this Act, the minister on behalf of the Crown in right of the Province or a council, as the case may be, may order the person to restore the property to its condition prior to its alteration within a period specified in the order.

(2) Where a person has not complied with an order under subsection (1), the minister or a council, as the case may be, may restore the property to its condition prior to its alteration and the person who altered the property in contravention of this Act is liable for the reasonable costs of the restoration.

(3) No proceeding may be brought for anything done or omitted in good faith respecting a restoration under subsection (2).

1977-37-28

29. A person who contravenes section 6, 12 or 14 (1) (b), or an order made under section 7 (3) (b) (ii) or 14 (1) (a), commits an offence.

1977-37-29

Regulations

30. The Lieutenant Governor in Council may make regulations.

1977-37-37.

Queen's Printer for British Columbia ©
Victoria, 1979

APPENDIX C

QUALIFICATIONS FOR PROFESSIONAL HERITAGE IMPACT ASSESSMENT CONSULTANTS WORKING IN BRITISH COLUMBIA

QUALIFICATIONS FOR PROFESSIONAL HERITAGE IMPACT ASSESSMENT CONSULTANTS WORKING IN BRITISH COLUMBIA

The following provisions are intended to ensure the professional treatment of heritage resources as outlined in Guidelines for Heritage Resources Impact Assessment in British Columbia. They apply to all persons responsible for coordinating, directing, or reporting heritage impact assessment and management studies.

All qualifications must be met in each case. However, various combinations of training, experience, and ability, will be reviewed by the Heritage Conservation Branch for acceptability.

Education

- MA in archaeology, history, anthropology, cultural resource management, or other related disciplines at an accredited university, or BA with an equivalent amount of training in one or more of the above disciplines.

- the focus of academic training must pertain directly to the type of heritage resources being investigated.

Work Experience

- 12 months professional experience or specialized training in archaeological or historical research and analysis; at least 6 months must pertain to work undertaken, preferably in a supervisory capacity, in British Columbia or in immediately adjacent areas.

- supervision of at least one field project, undertaken in the context of heritage resource inventory and impact assessment, that resulted in a publication or a publication-quality manuscript.

Other

- demonstrated ability to design and conduct heritage research, and to prepare a final report on the results.

- demonstrated ability to carry research to completion as evidenced by the timely submission of theses, reports, papers, or compliance with all conditions of previous permits or ministerial orders issued to the individual.

- has access to facilities necessary to carry out field work, analysis, and report preparation.

- can access the services of related specialists including archaeologists, historians, paleontologists, architectural historians, cultural geographers, cultural and physical anthropologists, faunal and floral analysists, geomorphologists, or pedologists when required.

- can serve as a repository for proper curating of recovered cultural materials, or establish a satisfactory arrangement with such a repository.

APPENDIX D

CHECKLIST OF CRITERIA FOR ARCHAEOLOGICAL SITE EVALUATION

CHECKLIST OF CRITERIA FOR ARCHAEOLOGICAL SITE EVALUATION

Scientific Significance

(a) Does the site contain evidence which may substantively enhance understanding of culture history, culture process, or other aspects of local and regional prehistory?

- internal stratification and depth
- chronologically sensitive cultural items
- materials for absolute dating
- association with ancient landforms
- quantity and variety of tool types
- distinct intrasite activity areas
- tool types indicative of specific socioeconomic or religious activity
- cultural features such as burials, dwellings, hearths, etc.
- diagnostic faunal and floral remains
- exotic cultural items and materials
- uniqueness or representativeness of the site
- condition of the site

(b) Does the site contain evidence which may be used for experimentation aimed at improving archaeological methods and techniques?

- monitoring impacts from artificial or natural agents
- site preservation or conservation experiments
- data recovery experiments
- sampling experiments
- intrasite spatial analysis

(c) Does the site contain evidence which can make important contributions to paleonenvironmental studies?

- topographical, geomorphological context
- depositional character
- diagnostic faunal, floral data

(d) Does the site contain evidence which can contribute to other scientific disciplines such as hydrology, geomorphology, pedology, meteorology, zoology, botany, forensic medicine, and environmental hazards research, or to industry including forestry and commercial fisheries?

Public Significance

(a) Does the site have potential for public use in an interpretive, educational, or recreational capacity?

- condition of the site
- technical and economic feasibility of restoration and development for public use
- visibility of cultural features and their ability to be easily interpreted
- accessibilty to the public
- opportunities for protection against vandalism
- representativeness and uniqueness of the site
- aesthetics of the local setting
- proximity to established recreation areas
- present and potential land use
- land ownership and administration
- legal and jurisdictional status
- local community attitude toward development

(b) Does the site receive visitation or use by tourists, local residents, or school groups?

Ethnic Significance

(a) Does the site or site locality presently have traditional, social, or religious importance to a particular group or community?

- ethnographic or ethnohistoric reference
- local community recognition of, and concern for, the site

Economic Significance

(a) What value of user-benefits may be placed on the site?

- visitors' willingness-to-pay
- visitors' travel costs

APPENDIX E

CHECKLIST OF CRITERIA FOR HISTORICAL SITE EVALUATION

CHECKLIST OF CRITERIA OF HISTORICAL SITE EVALUATION

Scientific Significance

(a) Does the site contain evidence which may substantively enhance understanding of historic patterns of settlement and land use in particular locality, region, or larger area?

(b) Does the site contain evidence which can make important contributions to other scientific disciplines or industry?

Historic Significance

(a) Is the site associated with the early exploration, settlement, land use, or other aspect of British Columbia's cultural development?

(b) Is the site associated with the life or activities of a particular historic figure, group, organization, or institution that has made a significant contribution to, or impact on, the community, province or nation?

(c) Is the site associated with a particular historic event whether cultural, economic, military, religious, social or political that has made a significant contribution to, or impact on, the community, province, or nation?

(d) Is the site associated with a traditional recurring event in the history of the community, province, or nation such as an annual celebration?

Public Significance

(a) Does the site have potential for public use in an interpretive, educational or recreational capacity?

- visibility and accessibility to the public
- ability of the site to be easily interpreted
- opportunities for protection against vandalism
- economic and engineering feasibility of reconstruction, restoration, and maintenance
- representativeness and uniqueness of the site
- proximity to established recreation areas
- compatibility with surrounding zoning regulations or land use
- land ownership and administration
- local community attitude toward site preservation, development or destruction
- present use of the site

(b) Does the site receive visitation or use by tourists, local residents, or school groups?

Ethnic Significance

(a) Does the site presently have traditional, social, or religious importance to a particular ethnic group or community?

(b) Is the site representative of a particular ethnic group or community?

Economic Significance

(a) What value of user-benefits may be placed on the site?

- visitors' willingness-to-pay
- visitors' travel costs

Integrity and Condition

(a) Does the site occupy its original location?

(b) Has the site undergone structural alterations? If so, to what degree has the site maintained its original structure?

(c) Does the original site retain most of its original materials?

(d) Has the site been disturbed by either natural or artificial means?

Other

(a) Is the site a commonly acknowledged landmark?

(b) Does, or could, the site contribute continuity or identity to a particular street, neighborhood, or area, either alone or in conjunction with similar sites in the vicinity?

(c) Is the site a good typical example of an early structure or device commonly used for a specific purpose throughout an area or period of time?

(d) Is the site representative of a particular architectural style or pattern?

APPENDIX F

CHECKLIST OF CRITERIA FOR ARCHITECTURAL SITE EVALUATION

CHECKLIST OF CRITERIA FOR ARCHITECTURAL SITE EVALUATION

Scientific Significance

(a) Does the site contain evidence which may substantively enhance understanding of the development or use of particular architectural patterns, styles, workmanship, or material in an area?

(b) Does the site contain evidence which can make important contributions to other disciplines?

Public Significance

(a) Does the structure or site have potential for public use in an interpretive, educational or recreational capacity?

- visibility and accessibility to the public
- ability of the site to be easily interpreted
- opportunities for protection against vandalism
- economic and engineering feasibility of reconstruction, restoration, and maintenance
- representativeness and uniqueness of the site
- compatibility with surrounding zoning regulations or land use
- land ownership and administration
- present use of the site
- proximity to established recreation areas
- integrity and condition of the site
- local community attitude toward site preservation, development or destruction

(b) Does the site receive visitation or use by tourists, local residents, or school groups?

(c) Is the site a unique architectural curiosity of scenic work of particular artistic merit?

Historic Significance

(a) Is the architectural style, workmanship, construction technique, or other feature a notable, representative example of a part cular period in the province's cultural history?

Ethnic Significance

(a) Is the architectural style, design, workmanship, or other feature a notable, representative example of a particular ethnic group or community?

Economic Significance

(a) What value of user-benefits may be placed on the site?

- visitors' willingness-to-pay
- visitors' travel costs

Integrity and Condition

(a) Does the site occupy its original location?

(b) Does the site maintain its original materials and workmanship?

(c) Has the site undergone any alterations? If so, to what degree has the site maintained its original structure or design?

(d) Is the site in good physical condition?

Other

(a) Is the site a commonly acknowledged landmark, particularly for its architectural merit?

(b) Is the site the last, or one of the few remaining examples of a particular type?

(c) Is the site a notable work of an architect, engineer, or master builder who has made a significant, lasting contribution to the community, province, or nation?

(d) Does, or could, the site contribute to the harmony or identity of a particular street, neighborhood, or area, either alone or in conjunction with similar sites in the vicinity?

APPENDIX G

CHECKLIST OF CRITERIA FOR PALEONTOLOGICAL SITE EVALUATION

CHECKLIST OF CRITERIA FOR PALEONTOLOGICAL SITE EVALUATION

Scientific Significance

(a) Does the site contain evidence which may substantively enhance understanding of the paleontology of a particular area or region?

- physiographic and depositional context
- presence of diagnostic specimens
- representativeness and uniqueness
- preservation
- antiquity

(b) Does the site contain evidence which can make substantive contributions to other paleoenvironmental studies?

(c) Does the site contain evidence which can make important contributions to other scientific disciplines or industry?

Public Significance

(a) Is the site a natural curiosity?

(b) Does the site have potential for public use in an interpretive, educational capacity?

- condition of the site
- visibility and accessibility to the public
- ability of the site to be easily interpreted
- opportunities for protection against vandalism
- proximity to established recreation areas
- present and potential land use

- land ownership and administration
- local community attitude toward protection and development

(c) Does the site receive visitation or use by tourists, local residents, or school groups?

Economic Significance

(a) What value of user-benefits may be placed on the site?

- visitors' willingness-to-pay
- visitors' travel costs

Other

(a) Is the site an acknowledged landmark?

(b) Is the site a notable, representative example of a particular extinct paleontological assemblage?

(c) Does the site contribute to the continuity or character of the surrounding natural environment?

APPENDIX H

INDICATORS FOR ASSESSING IMPACTS ON HERITAGE SITES

INDICATORS FOR ASSESSING IMPACTS ON HERITAGE SITES

Magnitude — The amount of physical alteration or destruction which can be expected. The resultant loss of heritage value is measured either in amount or degree of disturbance.

Severity — The irreversibility of an impact. Adverse impacts which result in a totally irreversible and irretrieveable loss of heritage value are of the highest severity.

Duration — The length of time an adverse impact persists. Impacts may have short-term or temporary effects, or conversely, more persistent, long-term effects on heritage sites.

Range — The spatial distribution, whether widespread or site-specific, of an adverse impact.

Frequency — The number of times an impact can be expected. For example, an adverse impact of variable magnitude and severity may occur only once. An impact such as that resulting from cultivation may be of recurring or ongoing nature.

Diversity — The number of different kinds of project-related actions expected to affect a heritage site.

Cumulative Effect — A progressive alteration or destruction of a site owing to the repetitive nature of one or more impacts.

Rate of Change The rate at which an impact will effectively alter the integrity or physical condition of a heritage site. Although an important level-of-effect indicator, it is often difficult to estimate in Stage 2. Rate of change is normally assessed during or following project construction.